

## **PATCHED GENES AND THEIR USE**

### **ABSTRACT OF THE INVENTION**

Invertebrate and vertebrate *patched* genes are provided, as well as methods  
5 for isolation of related genes, where the genes may be of different species or in the  
same family. Having the ability to regulate the expression of the *patched* gene,  
allows for the elucidation of embryonic development, cellular regulation associated  
with signal transduction by the *patched* gene, the identification of agonist and  
antagonist to signal transduction, identification of ligands for binding to *patched*,  
10 isolation of the ligands, and assaying for levels of transcription and expression of  
the *patched* gene.